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## Exploring the Relationship of Iranian EFL Learners' Critical Thinking and Self-regulation with their Reading Comprehension Ability

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### Abstract

The purpose of this study was to investigate the relationship of Iranian EFL learners' critical thinking and self-regulation with their reading comprehension ability across beginners, intermediate, and advanced levels of proficiency. In addition, this relationship investigated across beginners, intermediate, and advanced levels of proficiency. To this end, 70 learners studying English language teaching and English literature who were selected through convenient sampling procedure completed a reading placement test, the Critical Thinking dispositions questionnaire and self-regulation questionnaire. The findings indicated a statistically significant correlation for those with greater critical thinking skill among advanced and intermediate learners, while there was no significant relationship between self-regulation and reading comprehension ability except for the advanced group of learners. The study has implications for course designers, teachers and students.

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**Keywords:** critical thinking; self-regulation; reading comprehension ability

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## 1. Introduction

With the development of technology around the world, the quantity of texts available in various languages especially in English has increased. It requires learner to improve their reading ability and interact with different authentic material (Grabe & Stoller, 2002). Furthermore, recent research in foreign language reading has focused on "metacognition". These studies investigate metacognitive reading strategies and the relationship among strategy use, and reading comprehension. It is believed that self-regulation and critical thinking are two relevant metacognitive reading strategies.

Despite the growing interest in cognitive and metacognitive learning, Dornyei (2005) has suggested further research on academic self-regulation (p. 91). He asserted "The new concept of self-regulation offered a far broader perspective than the previous focus on learning strategies" (p.190). Unfortunately traditional instruction pays a little attention to self-directed behaviour, so acquiring a high level of self-regulation has become intricate, and also recent teaching practices may be not adequate for promoting self-regulation learning (Zimmerman, Bonner, & Kovach, 1996). Another problem is reducing reading motivation among language learners, Juel (1988), found that 40 percent of poor readers' problem refers to the lack of motivation for reading; she stated that they prefer to clean the mold around bathtub than read. Maftoon & Tasnimi (2013) suggested language teachers in teaching reading skill apply more self-regulation strategies because it increases students' motivation and they see themselves as agents of their own learning, and develop their autonomy.

Evidence has shown that much effort has been done and a lot of cost has been spent in teaching foreign language in Iran, but as Schafersman (1991) mentioned EFL learners still suffer from difficulties in language learning skills. It seems that the problem refers to educational system; most EFL teachers traditionally appear to prefer teaching 'what to think' instead of 'how to think'.

According to Facione (2011) critical thinking is a purposeful, self-regulatory judgment which enables learners to read between the lines, see behind surface and identify false or unfair assumption. Both reading comprehension and critical thinking are kinds of cognitive abilities, so they have some properties of cognitive skills in common, in this way it can be concluded that development of critical thinking improves reading comprehension (Fahim, & Sa'eepour, 2011)

In this study, we sought to confirm the following research hypotheses: (a) There is no significant relationship between Iranian EFL learners' critical thinking and their reading comprehension ability; (b) There is no significant relationship between Iranian EFL learners' self-regulation and their reading comprehension ability.

### 1.1. Critical thinking

There is no consensus regarding the definition of critical thinking which might be interpreted as a lack of an accepted framework for critical thinking.

Considering the breadth of the concept of critical thinking, Wright (2002) defines it as "preserve the core meaning of the original concepts used to define critical thinking." (p. 41)

Critical thinking is defined as "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" by Facione (2011; p. 26).

### 1.2. Self-regulation

"Self-regulation skills emphasize autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement" (Paris and Paris, 2001).

They also offered three solutions for students to become self-regulated, include:

1. Teacher as an authentic reference through repeated practices can persuade students implicitly to become self-regulated learners.
2. Explicit instruction about self-regulated learning might be presented and taught directly in the class.
3. Involving students in practices that require self-regulation, in order to acquiring self-regulated learning.

They believed that self-regulated learning has several beneficial outcomes, for instance, Deeper understanding, self-management of thinking, self-controlling, focusing on process of learning, and personal awareness of different ways of learning. Moreover, Nilson and Zimmerman (2013) stated self-regulated learners take responsibility for their own learning.

## **2. Method**

This study employed quantitative method and the design of the study is correlational. In order to gather data related to the research questions, first the participants were asked to take a reading placement test, in order to determine their levels of proficiency in reading comprehension. Then, two questionnaires were utilized to obtain the required data on the variables of this study. The dependent variable was reading comprehension and the independent variables were critical thinking and self-regulation.

### *2.1. Participants*

The participants of the study were selected from Shiraz University in year 2015. Seventy (70) male and female students who were studying English participated in this study. Their field of their study was English language teaching and English literature. The participants were selected through convenient (availability) sampling procedure. All participants were contacted and visited for the purpose of data collection. The participants were divided into three groups, beginner, intermediate, and advanced levels of proficiency based on their scores in the reading comprehension placement test. They were asked to complete two questionnaires of critical thinking and self-regulation.

### *2.2. Instruments*

Three instruments were used to collect data in this study. The researcher conducted a reading comprehension placement test to determine the level of the participants. Two questionnaires were also used, in order to obtain the required data on the variables of this study. The placement test and both questionnaires were described in detail as follows.

#### *2.2.1. Reading Placement Inventory (RPI)*

The Reading Placement Inventory has been developed to assist teachers in making educational placement decisions for their students when enrolling her or him in the K12 curriculum. This is a short assessment that measures a student's ability to read and understand text. The purpose of this test is to learn more about the students' reading skills. The test measures reading comprehension skills by asking the student to read an incomplete sentence and select the word that best completes the sentence. It includes 25 multiple choice items, and took about 20 to 30 minutes to complete. The students whose test scores were more than 0.5 standard deviation above the mean were considered as advance level, those with test scores between 0.5 standard deviation above and below the mean were considered intermediates and the students whose test scores were less than 0.5 standard deviation below the mean were considered as beginners.

#### *2.2.2. Critical Thinking Disposition Inventory (CTDI)*

Ricketts Critical Thinking Dispositions Questionnaire (2003) was made based on Facione (1990) scale for measuring critical thinking. The Persian version of this questionnaire was used in this research in order to decreasing ambiguity. This questionnaire included 33 statements in likert 5-point scale ranging from 'Strongly Disagree' to 'Strongly Agree'. The minimum, median and maximum scores that might be acquired were 33, 99 and 145, respectively.

Three subcomponents (subscales) of the questionnaire were entitled innovation with 11 statements, Maturity with 9 statements and Engagement with 13 statements. The Cronbach's alpha coefficient for the subcomponents of innovation, maturity and engagement were 0.75, 0.75 and 0.86, respectively. The reliability coefficient of instrument was reported about 0.76 by Pakmehr and Dehghani (2010).

### 2.2.3. *The Self-Regulation Questionnaire (SRQ)*

The Self-Regulation Questionnaire was developed by Brown, Miller, and Lawendowski, (1999) as a first attempt to measure the self-regulatory processes over self-report. To avoiding ambiguity the Persian version of this questionnaire was used. The questionnaire designed was based on a 5-point likert-scale that ranged from 1 (completely agree) to 5 (completely disagree). This scale was considered appropriate to assess overall self-regulation components and formulated in seven steps, which includes:

1. Receiving relevant information
2. Evaluating the information and comparing it to norms
3. Triggering change
4. Searching for options
5. Formulating a plan
6. Implementing the plan
7. Assessing the plan's effectiveness (which recycles to steps 1 and 2)

Dehghan (2011) used principal components analysis applying Varimax rotation to explore the factor structure of the questionnaire, to do so 12 items were removed, moreover 2 factors include implementing and formulating a plan, searching and evaluating factors, were employed.

Test-retest reliability for the total SRQ score was high ( $r = .94$ ,  $p < .0001$ ). Internal consistency of the scale was also quite high ( $\alpha = .91$ ).

### 2.3. *Procedure*

All of the data collection was conducted during the class time inside the classroom. In order to determine the participants' proficiency level, the reading placement inventory (RPI) was administered. After a week questionnaires were presented to students. In order to get reliable answers from the respondents, questionnaires were not distributed simultaneously. So, they filled them out within 2 days interval. The investigator allowed the participants to fill the questionnaires at their home too. Before the delivery of the questionnaires, the researcher explained the basic concepts involved in this research to the participants. The intention and purpose of this study were also clarified at the beginning.

The participants were informed that they would complete questionnaires about critical thinking, and self-regulation as well. They were assured that any responses that they would provide would be used anonymously and their names would remain confidential.

Moreover, permission for data collection was granted. The data were gathered in November 2015 during the autumn semester of the academic year. Finally, in order to answer the research inquiry, the responses obtained from the questionnaires are collected and analysed.

With regard to research hypotheses, data should be analysed in ways that can shed light on the specific questions asked in the study. For each reading test score, to analyse the descriptive statistics, means and standard deviations were calculated. Descriptive statistics provide a simple summary or overview of data, thus allowing the researcher to gain a better overall understanding of the data set. Based on students' scores in the reading comprehension placement test they were divided into three groups: beginners, intermediate, and advance levels.

Data collected from the questionnaires were processed using the Statistical Package for Social Sciences (SPSS, Version 20). The Pearson Correlation Coefficient was used for both research questions to determine whether there was any significant relationship between critical thinking and self-regulation of Iranian EFL learners and their reading comprehension and to test the null-hypotheses proposed by the investigator.

### 3. Results

This study examined the relationship of Iranian EFL learners' critical thinking and self-regulation with their reading comprehension ability. In addition, this relationship investigated across beginners, intermediate, and advanced levels of proficiency. The results of the questionnaires were analysed to respond to the research questions. In these analyses, Critical Thinking has three subscales comprises Maturity, Engagement, and Innovation, so the relationship between each of subscale and reading comprehension ability were investigated. As the relationship between reading comprehension ability and self-regulation with two subcomponents includes implementing and formulating a plan, along with searching and evaluating, were also examined.

Table 1. Pearson Correlation between EFL learners' Critical Thinking and their Reading Comprehension Ability

Variable	Reading comprehension ability	Score
Creativity	correlation	0.79
	level of significance	0.268
Maturity	correlation	0.33
	level of significance	0.005
Engagement	correlation	0.44
	level of significance	0.000
Critical thinking	correlation	0.40
	level of significance	0.005

As table 1 implies, there was a significant correlation between critical thinking and their reading comprehension ability (level of significance= 0.005).

Table 2. Pearson correlation between EFL learners' critical thinking and their reading comprehension ability (in three levels of beginner-intermediate-advanced)

Variable	Critical Thinking	Score
Reading comprehension (Beginner)	correlation	
	level of significance	
Reading comprehension (Intermediate)	correlation	
	level of significance	
Reading comprehension (Advanced)	correlation	
	level of significance	

According to Table 2 there was a significant relationship between critical thinking and reading comprehension ability among intermediate and advanced levels.

Table 3. Pearson correlations between EFL learners' self-regulation and their reading comprehension ability

Variable	Reading comprehension ability	Score
Implementing and Formulating a Plan	Correlation	
	level of significance	
Searching and Evaluating	Correlation	
	level of significance	
Self-regulation	Correlation	

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level of significance

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Table 3 indicates that there was no significant relationship between self-regulation and reading comprehension ability (level of significance= 0.069).

Table 4. Pearson correlation between EFL learners' self-regulation and their reading comprehension ability (in 3 levels of beginner-intermediate-advanced)

Variable	Self-regulation	Score
Reading comprehension (Beginner)	Correlation level of significance	
Reading comprehension (Intermediate)	Correlation level of significance	
Reading comprehension (advanced)	Correlation level of significance	

Table 4 shows that there was no significant relationship between self-regulation and reading comprehension ability except in advanced level (level of significance=0.005).

#### 4. Discussion and conclusion

A great number of scholars have investigated and elaborated upon the concept of critical thinking and its significant role in reading comprehension ability, for instance Richard Paul (2004) emphasized the relationship between critical thinking and reading comprehension. As he claimed:

"The reflective mind improves its thinking by reflectively thinking about it. Likewise, it improves its reading by reflectively thinking about how it is reading..."

This research also followed previous studies and explored the connection between critical thinking and reading comprehension ability, to this end first research hypothesis was analysed. The findings indicated that there was a significant relationship between Iranian EFL learners' critical thinking and their reading comprehension ability. This study also implied that learners with less critical thinking have poor comprehension. According to data analysis of the second research hypothesis, there was a significant correlation between each principle components of self-regulation (implementing and formulating a plan, searching and evaluating factors) and reading comprehension ability, among advanced EFL learners. However there was no relationship between self-regulation and reading comprehension ability among beginner and intermediate students.

Based on data analysis, a significant correlation between critical thinking and reading comprehension ability was concluded ( $\text{sig} = .005$ ,  $p\text{-value} < .05$ ). This study also showed a significant relationship between each of innovation, maturity, and engagement subscales with reading comprehension ability among intermediate and advanced students. This finding supported the important belief about the positive influence of critical thinking on reading comprehension ability, which is supported by practitioner and researchers (Facione, 1992; Paul, 2004; Aloqaili, 2012; Fahim, 2010). In this regards, the outcome of the present research was consistent with the result of other studies. The findings indicated that, many researchers and scholars have believed the significant role of critical thinking on reading comprehension ability. Facione (1992) remarked Development of critical thinking will follow with having progress in reading. Then, they carried out several research studies in order to find the importance of critical thinking in reading comprehension ability. In this case, Richard Paul (2004) emphasized that critical thinking skills can facilitate reading comprehension ability. This supported that the researchers were likely to this importance and conducted different studies in these variables. Moreover, this relationship may direct the researchers to be certain about that learning is separate from these affective variables. Critical thinking is an important element which has a fundamental role in the process of problem solving. (Ghazivakili et al., 2014). According to previous studies, critical thinking and reading comprehension ability are interrelated features; this study concluded that learners with less critical thinking have poor comprehension. This indicated that they are less

effective learners in learning foreign language especially in reading comprehension due to their less critical thinking. According to Marashi and Noochiwani (2012), critical thinking strategies awaken the learners' prior knowledge and assist them have better connection to the text. They believe that in order to facilitating reading comprehension, critical reading should be trained to English teachers. In general, as it is obvious from what was elaborated, the result of this study in relation to correlation between critical thinking and reading comprehension ability were well-matched with the findings of different previous research studies.

According to data analysis of the second research hypothesis, there was a significant correlation between each principle components of self-regulation (implementing and formulating a plan, searching and evaluating factors) and reading comprehension ability, among advanced EFL learners. However there was no relationship between self-regulation and reading comprehension ability among beginner and intermediate students. It seems clear that self-regulation influence reading comprehension ability (e.g., Magno, 2011; Sitzmann, & Ely, 2011); Oettingen, Honig & Collwitzer, 2000; Young, 2005; Hong, Pang & Rowell, 2009). Specially, Matfoon and Tasnimi (2013) found that self-regulation has a significant effect on reading comprehension ability. Jafarigohar and Morshedian (2014) claimed that self-regulator students can better comprehend an English reading text by making inferences while reading a passage. The findings of this study also supported by scholars and researchers, for instance Abbasian and Hartoonian (2014), who believe self-regulation as an fundamental factors to improve language proficiency with a focus on reading comprehension. However, Zarei and Hatami (2012) achieved to different results, in this regard he claimed these surprising findings might refer to some factors like cultural differences and participants with different abilities. Radi Arbabi (2013) also believed that there is no significant relationship between self-regulation and writing. Based on the findings in current study there was no significant relationship between self-regulation and reading comprehension ability among beginners and intermediate students. There are a lot of possible factors which involved in making different result from previous researches; different learning context, ignoring age of students as a variable, and several possible reasons. However this research suggested a positive correlation at advanced level of participants.

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